

AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions and listings of the claims in this application.

LISTING OF THE CLAIMS:

Claims 1-7. (Canceled)

8. (New) A biological sensor which incorporates

- a) a first layered SAW device consisting of a piezoelectric crystal with interdigital electrodes on its surface, and second piezoelectric layer, of a different material to said piezoelectric crystal, over said interdigital electrodes
- b) a second layered SAW device consisting of a piezoelectric crystal with interdigital electrodes on its surface, a second piezoelectric layer, of a different material to said piezoelectric crystal over said interdigital electrodes and an analyte sensitive surface on said second piezoelectric layer
- c) both saw devices are fabricated on the same substrate and have an appropriate cavity length and aperture size
- d) the resonator circuits of each saw sensor incorporate amplifiers which are dependent .

9. (New) A biological sensor as claimed in claim 8 in which an acoustically sensitive transitional layer lies between the piezoelectric crystal and the second piezoelectric layer.

10. (New) A biological sensor as claimed in claim 8 or 9 in which the piezoelectric crystal is Lithium, Niobate or Lithium Tantalate and the second piezoelectric layer is zinc oxide.

11. (New) A biological sensor as claimed in claim 10 in which the analyte sensitive surface is gold.

12. (New) A biological sensor as claimed in claim 9 or 10 in which the cavity length of the two SAW devices is not less than 90% of the center to center distance of the two devices.

13. (New) A biological sensor as claimed in claim 2 or 3 in which the aperture size is approximately 200 wavelengths.

14. (New) A biological sensor as claimed in claim 8 in which the SAW devices include grooved gratings.